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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/646,226

08/22/2003

Izaya Okae

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29175 7590 07/27/2007  
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EXAMINER

ECHELMEYER, ALIX ELIZABETH

ART UNIT

PAPER NUMBER

1745

MAIL DATE

DELIVERY MODE

07/27/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/646,226	<b>Applicant(s)</b> OKAE ET AL.	
	<b>Examiner</b> Alix Elizabeth Echelmeyer	<b>Art Unit</b> 1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 11 May 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Response to Amendment*

1. This Office Action is in response to the amendment filed May 11, 2007. Claims 1 and 5 have been amended. Claim 2 has been cancelled. Claims 1 and 3-5 are rejected for the reasons given below.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 and 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaura (JP 2002-075368).

As for claims 1 and 5, Yamaura teaches a positive electrode active material for a nonaqueous electrolyte cell wherein the particles of active material are of the formula  $\text{LiNi}_{1-x}\text{M}_x\text{O}_2$  (and M is at least one of Al, B, Co), and the surfaces of the particles are covered by particles of the general formula  $\text{LiFePO}_4$  (abstract, [0001]).

In paragraph [0037] of the instant disclosure, applicants name  $\text{LiFePO}_4$  as a preferable positive active material. The examiner believes that this compound is inherently of the olivine structure, since products of identical chemical composition cannot have mutually exclusive properties. MPEP 2112.02 (II)

Regarding claims 3 and 4, the  $\text{LiNi}_{1-x}\text{M}_x\text{O}_2$  particles are 11.458  $\mu\text{m}$  on average and the  $\text{LiFePO}_4$  particles are 0.185  $\mu\text{m}$  on average ([0054]).

With further regard to claims 1 and 5, Yamaura fail to teach the claimed weight percent of  $\text{LiFeO}_4$  to lithium nickelate substrate.

Yamaura teaches that the combination of the two positive electrode active materials results in a material that is both stable (because of the  $\text{LiFePO}_4$ ) and has a high capacity (because of the lithium multiple oxide) ([0007]). Further, a balance of the two materials is necessary for the positive attributes of both materials to be available in the composite ([0008], [0025]).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to experiment with the amounts of each of the material in the positive electrode active material in order to achieve a balanced composite material. It has been held that discovering an optimum value of a result effective variable involves only routine skill in the art (MPEP 2144.05 IIB).

#### ***Response to Arguments***


4. Applicant's arguments with respect to claims 1 and 5 have been considered but are moot in view of the new grounds of rejection.

**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alix Elizabeth Echelmeyer whose telephone number is 571-272-1101. The examiner can normally be reached on Mon-Fri 7-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Susy N. Tsang-Foster can be reached on 571-272-1293. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
PATRICK JOSEPH RYAN  
SUPERVISORY PATENT EXAMINER

Alix Elizabeth Echelmeyer  
Examiner  
Art Unit 1745

aee